Watervliet Arsenal
East Magazine
(Building 119)
Munroe Street between Hagner Road
and Worth Road
Watervliet
Albany County
New York

HAER No. NY-1D

HAER
NY,
1-WAVL,
1/119-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

WATERVLIET ARSENAL
EAST MAGAZINE
(Building 119)
HAER No. NY-1D

Location:	Munroe Street between Hagner Road and Worth Road, Watervliet Arsenal, Watervliet, Albany County, New York. UTM: 18.605600.4730340 Quad: Troy South
Date of Construction:	1828
Present Owner and Occupant:	U.S. Army
Present Use:	Laboratory and command operating center
Significance:	The building is a largely intact example of early ammunition magazine design and contributes to an understanding of the arsenal's early manufacturing and storage activities. It is the oldest structure at the arsenal and provided the model for later ammunition magazine construction at Watervliet and at Benecia Arsenal in California.
Historian:	Barbara E. Hightower, February 1985

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: The building was probably completed in late 1828. In a letter to the Chief of Ordnance dated November 22, 1828, the arsenal's commander, Major George Talcott, noted that "the new magazine is finished so far as can be done before the walls are dry" (Kyle, p. 63). The lintel above the door on the east side also bears the date 1828.

2. Architect: Not known. The building was probably designed by Ordnance Department personnel.

3. Original and subsequent owners: U.S. Army

4. Builder, contractor, suppliers: Not known.

5. Original plans and construction: No original plans or drawings were located. The building and a second magazine (Building 129, HAER No. NY-1E) were described in a May 27, 1859 letter written to the Ordnance Department by Major Alfred Mordecai, the arsenal's commander:

> There are two magazines at this Arsenal, both of the same size and construction; being 95 ft. long and 26 ft. wide in the clear; the groined arches are 9 1/2 ft. high supported by 6 piers, 2 ft. sq. and 6 ft. high above the floor. The cubic contents of each of these magazines measure 21,420 ft. of vacant space; there is a door in the middle of one side and two windows at each end. (Kyle, p. 195)

6. Alterations and additions: In 1898 a shed was erected at the door on the east side of the magazine. The shed, used for filling cartridge bags with DuPont smokeless powder, was one of several facilities needed for filling, packing, and shipping field shells during the Spanish-American War (Kyle, p. 525). The shed was later removed.

With the exception of a loading platform added in 1918 (Kyle, p. 631), the magazine appears to have remained largely unaltered until the mid-1960s. At that time, it was converted to a laboratory and underwent major alterations particularly to the interior. A door was cut into the west facade, the floor was lowered to provide additional height, and the interior was divided into office, work, equipment, and toilet facilities.

Plans for the conversion are on file in the arsenal's Engineering Division. Since these alterations, the building's slate roofing has been replaced with asphalt shingles.

B. Historical Context:

Shortly after assuming command of the arsenal in 1824, Brevet Major George Talcott requested appropriations for expansion of its grounds and facilities. Funds for construction of a stone arsenal and magazine ($7,500) were soon provided but lack of an appropriate site delayed construction of the magazine. A location isolated from the arsenal's other buildings was necessary because of the explosive materials to be stored within the structure. Although a suitable tract west of the arsenal was not purchased until 1828, procurement of stone began at least by early 1827 and the magazine appears to have been completed in late 1828 (Kyle, p. 59). Two decades later, it provided a model for the "west magazine" at Watervliet and for two powder magazines constructed at Benicia Arsenal in California in the 1850s (Bruegmann, p. 74).

In 1889 the arsenal was designated the Army's gun factory, and a construction program followed that brought buildings within nearly 400 feet of the magazine. Since about 100,000 pounds of powder were stored in the structure, the arsenal's commander, Major Isaac Arnold, Jr., expressed concern that the seacoast gun shop "would be seriously injured if not destroyed" by an explosion (Kyle, p. 469). Despite Isaac's concern, the magazine appears to have continued in use as a powder storage facility. In the mid-1960s, it was converted to an Electrical Neutron Activation Analysis Laboratory and is currently designated a laboratory and command operating center although it is largely inactive. (For further documentation see HAER No. NY-1A.)

PART II. ARCHITECTURAL INFORMATION

A. Ceneral Statement:

1. Architectural character: Constructed of massive stone walls, the austere design of this hip-roofed structure is relieved by the prominent stone quoins at the corners and the quoin surround at the east door. Its interior is divided longitudinally by a row of brick columns supporting a groin vaulted ceiling.

2. Condition of fabric: The structure is in good condition and is well maintained.

B. Description of Exterior:

1. Over-all dimensions: This rectangular one-story structure measures 105' 4" (front) x 35' 9".

2. Foundations: Foundation walls are massive stone lined on the exterior by coursed rock retaining walls on the north and south and a battered concrete wall on the east. The columns at the center of the building are probably supported by masonry footings.

3. Walls: Walls on the east, north, and south sides are coursed ashlar limestone. The west wall is random coursed ashlar limestone. The corners of the building are accented with dressed ashlar limestone quoins.

4. Structural system, framing: Walls are load bearing, approximately 5 feet thick on the east, 4 feet on the west, and 3 to 3 1/2 feet on the north and south sides. A row of eight brick columns (the north and south columns are engaged) with stone capitals placed along the center of the building support the brick groin vaulted ceiling. The roof truss, which is not accessible to view, is heavy timber.

5. Stoops: A small concrete platform and concrete steps with hollow metal pipe railing are located at the west door.

6. Openings:

   a. Doorways and doors: The original doorway, located at the center of the east elevation, has been covered with a metal grill and louvered metal vent. The opening has a dressed ashlar limestone quoin surround. The number 18 is inscribed on the lintel left of the opening, and the number 28 is inscribed to the right of the opening. A second doorway cut into the center of the west elevation contains double-leaf, glazed metal personnel doors.

   b. Windows: Two square window openings with flat limestone surrounds are placed high on the north and south walls. The east openings on both ends are covered with strap-hinged, copper-clad, wood doors. The remaining window openings have been infilled with concrete block and metal louvers.

7. Roof:

   a. Shape, covering: The building's hip roof is covered with asphalt shingles.

b. Cornice, eaves: A stone cornice encircles the building below broad overhanging boxed eaves and a metal soffit.

C. Description of Interior:

1. Floor plan: The west entrance opens onto a hall terminated on the east by a small air conditioning equipment room. To the right of the hall, are two rooms each the width of the building. The area to the left of the hall contains a small office on the west wall, a large roughly L-shaped room, and toilet room in the northwest corner. (See supplemental material, floor plan)

2. Stairways: Four concrete steps lead from the entrance on the west side to the floor level.

3. Flooring: Floors, which were excavated to gain additional height when the building was converted to a laboratory, are linoleum over a concrete slab.

4. Wall and ceiling finish: Exterior load bearing walls are exposed stone, and partition walls are concrete block. Walls above the capitals of the columns and the ceiling are brick.

5. Openings:

a. Doors: Doors are modern single- or double-leaf glazed metal.

b. Windows: Coverings on interior window openings match those on the exterior.

6. Mechanical equipment:

a. Ventilation: Ventilation is provided by horizontal passages cut through the stone walls about midway between the water table and cornice.

b. Lighting: Interior illumination is provided by fluorescent light fixtures.

c. Plumbing: Plumbing fixtures are modern.

D. Site:

The building originally occupied an isolated position on a low hill near the western edge of the arsenal. Subsequent construction, particularly during World War II, has obliterated this setting. The structure is now surrounded by industrial, storage, and

administrative buildings, a parking lot, and rail lines. Its orientation has also been altered from east to west so that it fronts onto Monroe Street.

PART III. SOURCES OF INFORMATION

A. Architectural Drawings:

Plan, Elevations, and Sections, "Old Powder Magazine." November 21, 1945. Watervliet Arsenal Engineering Division.

Plans for Electrical Neutron Activation Analysis Laboratory. November 1965. 8 sheets; includes floor plan, utilities, details. Watervliet Arsenal Engineering Division.

B. Bibliography:

Secondary and published sources:

Bruegmann, Robert. Benicia: Portrait of an Early California Town, an Architectural History. San Francisco: 101 Productions, 1980. Discusses two powder magazines erected at Benicia Arsenal in the 1850s apparently according to plans for the "east magazine."

Building Technology, Inc. Historic Properties Report Watervliet Arsenal, Watervliet, New York and Rotterdam Family Housing Area, Rotterdam, New York. January 1985. The report and inventory cards for the arsenal are filed as field records in the Prints and Photographs Division, Library of Congress under HAER No. NY-1A.

Kyle, Francis K. A History of Watervliet Arsenal. Watervliet, New York: Watervliet Arsenal, 1920. Quotes contemporary correspondence on construction, descriptions, alterations, and contents of the building. Copy available in the Watervliet Arsenal Museum.

C. Likely Sources Not Yet Investigated:

Records of the Office of the Chief of Ordnance, Record Group 156, and Records of the Office of the Chief of Engineers, Record Group 77, Navy and Old Army Branch, National Archives, Washington, D.C. should be further investigated.

D. Supplemental Material:

Neutron Activation Analysis Laboratory, Building 119. No date.

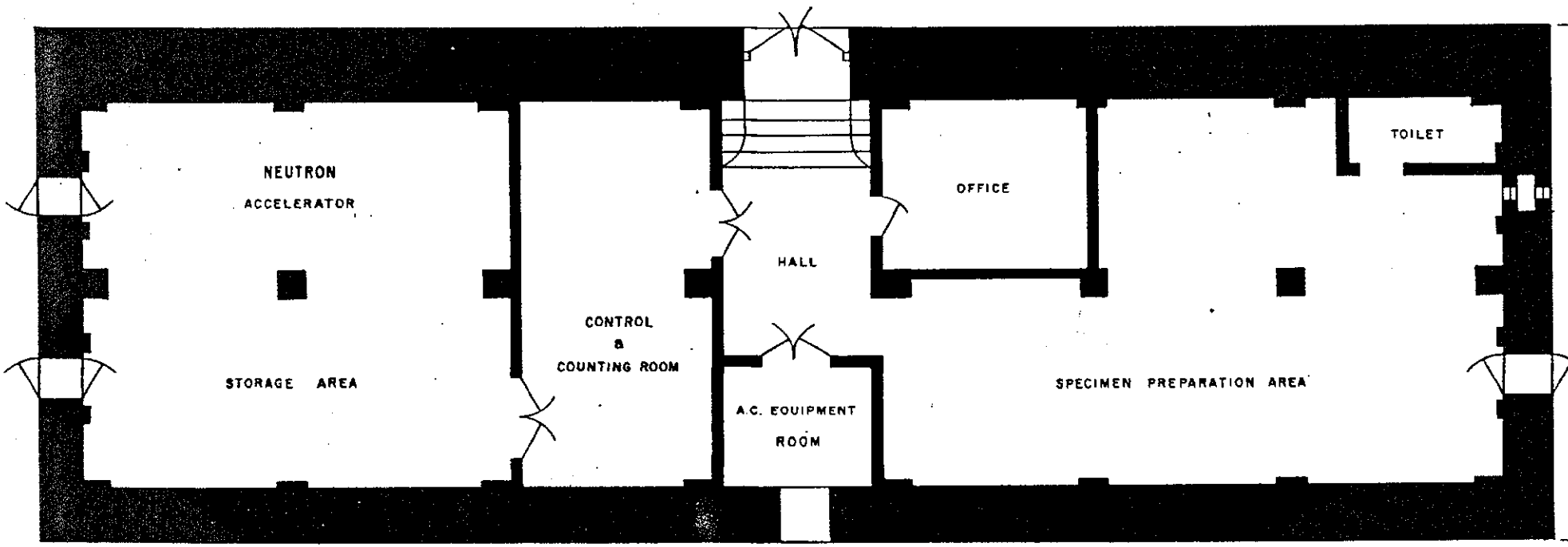
Watervliet Arsenal Engineering Division. Current floor plan of the building.

Prepared by: Barbara E. Hightower
Historian
MacDonald and Mack Partnership
February 1985

PART IV. PROJECT INFORMATION

This project was part of a program initiated through a memorandum of agreement between the National Park Service and the U.S. Department of the Army. Stanley H. Fried, Chief, Real Estate Branch of Headquarters DARCOM, and Dr. Robert J. Kapsch, Chief of the Historic American Buildings Survey/Historic American Engineering Record, were program directors. Sally Kress Tompkins of HABS/HAER was program manager, and Robie S. Lange of HABS/HAER was project manager. Under the direction of William A. Brenner, Building Technology Incorporated, Silver Spring, Maryland, acted as primary contractor, and MacDonald and Mack Partnership, Minneapolis, was a major subcontractor. The project included a survey of historic properties at Watervliet Arsenal, as well as preparation of an historic properties report and HABS/HAER documentation for 17 buildings. The survey, report, and documentation were completed by Barbara E. Hightower, historian, Minneapolis. The photographs were taken by Robert A. Ryan and J Ceronie of Dennett, Muessig, Ryan, and Associates, Ltd., Iowa City, Iowa. Drawings were produced by Gary M. Louris, Minneapolis.

E. Supplemental Material
Floor Plan



PLAN

WATERVLIET ARSENAL
EAST MAGAZINE
(Building 119)
HAER No. NY-1D
(Page 8)

NET FLOOR AREA
3765
Square feet

FLOOR CAPACITY
500 LBS.

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WATERVLIET ARSENAL		
WATERVLIET, N.Y.		
Drawn by: J.R.GANG ;MI, A.E. App'd by:	Revisions	Date
NEUTRON ACTIVATION ANALYSIS LABORATORY BUILDING NO. 119		